



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/009,148

12/27/2004

Carlo A. Buzzi

6722-01WOUS

8473

7590

08/02/2006

McCormick Paulding & Huber
City Place II
185 Asylum Street
Hartford, CT 06103-4102

EXAMINER

DOAN, ROBYN KIEU

ART UNIT

PAPER NUMBER

3732

DATE MAILED: 08/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/009,148

Applicant(s)

BUZZI, CARLO A.

Examiner

Robyn Doan

Art Unit

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Attachment A</u> . |

DETAILED ACTION

Applicant's Amendment filed 5/19/2006 has been entered and carefully considered. Claims 1-9 have been amended. Limitations of amended claims have not been found to be patentable over prior art of record, therefore, claims 1-9 are rejected under the new ground rejection as set forth below.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Lawton.

With regard to claim 1, Lawton discloses a tooth cleaning means (fig. 1) comprising a multifilament threads (10, 11), the threads being made of rubber and inherently being highly-elastically stretchable (col. 2, lines 15-18) and therefore, under the effect of tensile forces, the threads inherently reduce a cross-sectional area thereof; the threads being of a braided (see fig. 1) formation defining an abrasively acting surface (col. 2, lines 9-13) and wherein the threads being generally endlessly configured and connected among one another, see fig. 1, such that a severing of the threads is possible without the threads being coming undone.

Art Unit: 3732

Applicant has argued that Lawton does not show the rubber strands being configured to be highly elastically stretchable. Applicant is noted that col. 2, lines 15-18 shows that the rubber strands are elastic and stretchable, therefore, it meets the claimed limitations. With regard to the terminology "highly", it is a very broad term, therefore, the shown structure of the rubber strands being inherently meets such limitations.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 8, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donovan in view of Bible (U.S. Pat. # 5,692,530).

With regard to claim 1, Donovan discloses a tooth cleaning means (floss 11, figs. 8-11) comprising multifilament threads (11), wherein the threads being highly-elastically stretchable (polyester col. 3, line 1, Applicant is noted that it is known that the property of polyester is very elastic) and under the effect of tensile forces, the cross-sectional area inherently reduce. Donovan also shows the tooth cleaning means being endlessly (figs. 8-11) configured and connected among one another such that a severing is possible without the threads coming undone. Donovan fails to show the threads being one of a braided formation defining an abrasively acting surface, however, Bible shows

Art Unit: 3732

multifilament dental floss in a braided formation (fig. 2) defining an abrasively acting surface. It would have been obvious to one having an ordinary skill in the art at the time the invention was made to employ the braided formation as taught by Bible into the dental floss of Donovan in order to improve cleaning and polishing properties to the floss. In regard to claims 2 and 3, Donovan shows the multifilament threads being unreleasably connected among one another (at 12a, fig. 8) by adhering (col. 3, lines 8-9). In regard to claim 8, Donovan shows the multifilament threads being coated with tooth caring means (wax, col. 5, lines 45-46). In regard to claims With regard to claims 4-6, Donovan discloses a tooth cleaning means comprising all the claimed limitations in claim 1 as discussed above except for an oblique cut separating location, the multifilament threads having at least one thread in a different color than the remaining ones and at least one thread with a bright and a dark color tone. Bible et al discloses a dental floss (fig. 8) comprising a plurality of strands (14, 15), each being different color (col. 3, lines 30-41). It would have been obvious to one having an ordinary skill in the art at the time at the invention was made to apply the technique of using different color in a plurality strands of a dental floss as taught by Bible et al into the tooth cleaning means of Donovan for the purpose of providing a visual stimulus to the consumer. It would also have been obvious to one having an ordinary skill in the art at the time the invention was made to construct an oblique cut separating location and a bright and dark color tone for at least one thread, since such a modification would have involved a mere change in the shape of the separation location and color of a known component and one would expect an equivalent effect with the modified element.

Applicant has argued that Donovan does not show the threads being made of highly elastically stretchable. As discussed above, it is known that the properties of polyesters material is very elastic (see attachment A) and elastic is inherently stretchable, therefore, it meets the claimed limitations. Applicant has also argued that fig. 2 does not show the change in cross-sectional area of the floss, however such argument is direct to a method of using the device and as explained above, the threads of Donovan is inherently capable to change the cross-sectional area under the tensional forces. In regard to the argument of claim 4, the above feature "oblique cut" is held to be obvious because there is no disclosed criticality.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lawton.

With regard to claim 7, Lawton discloses a tooth cleaning means comprising all the claimed limitations as discussed above and further discloses the multifilament threads consisting of the same or different materials (col. 3, lines 34-36). Lawton fails to show the multifilament threads being integrated with cross sectional areas differing greatly in size, however, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to construct cross sectional areas of the multifilament threads differing greatly in size, since such a modification would have involved a mere change in the size component. A change in size is generally recognized as being within the level or ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Donovan in view of Bible et al as applied to claim 1 above, and further in view of Doundoulakis (U.S. Pat. # 4,974,615).

With regard to claim 9, Donovan in view of Bible et al disclose a tooth cleaning means comprising all the claimed limitations in claim 1 as discussed above except for the multifilament threads being made of latex. Doundoulakis discloses a dental floss being made of latex (col. 4, lines 65-68). It would have been obvious to one having an ordinary skill in the art at the time the invention was made to employ the latex material as taught by Doundoulakis into the multifilament threads of Donovan in order to provide sufficient strength to the tooth cleaning means.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

Art Unit: 3732

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

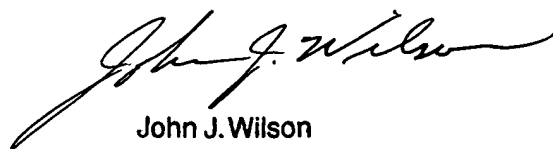
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robyn Doan whose telephone number is (571) 272-4711. The examiner can normally be reached on Mon-Fri 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Robyn Doan
Examiner
Art Unit 3732



John J. Wilson
Primary Examiner

Attachment A

Man Made Organic Materials - Part II

Keywords:

Search

Help

Polyester

Polyester as the name suggests is made out of esters. Esters are functional group with $-\text{COOR}$, where R is a methyl group. Polyester is a man made fiber, which is a polymer with esters. Polyester is a very popular yarn these days. Popular polyester is called terylene and another name for the terylene fiber is dracon.

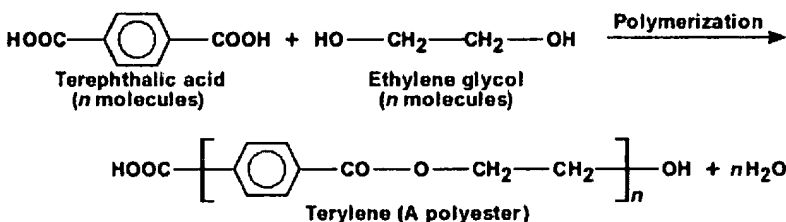
Preparation of polyester

We have seen earlier that esters are formed when a carboxylic acid reacts with an alcohol. Polymerization reaction can make the ester formed into long chain molecules.

The following raw materials are used for the manufacture of a polyester called terylene:

- Terephthalic acid
- Ethylene glycol

Terephthalic acid is a dicarboxylic acid, that is it has two $-\text{COOH}$ groups. It reacts with ethylene glycol that has two $-\text{OH}$ groups to give an ethylene type ester. The polymerization reaction gives polyester and water. This particular polyester is called terylene. The reaction is shown below.



Molten or viscous terylene molecules are forced through spinneret holes in the form of jets which gives rise to terylene threads.

Properties of polyesters

1. Strength : Polyester fibers like terylene are strong as they are long chain polymers.
2. Elasticity : Polyester fibers are very elastic. This means that they regain their original shape once the load on them is released. They do not lose their shape even after repeated use.
3. Water absorption : Polyester fibers like terylene absorb very little water or moisture.
4. Wrinkle resistant : Fibers made of polyester do not wrinkle easily. If wrinkled and released, they get back to their original shape quickly.
5. Abrasion resistant : polyester fibers withstand wear and tear or abrasion much better. The basic polyester from which it is made is long chained molecule and is completely unreactive to external chemicals and biological agents. Thus clothes made from polyester are long lasting.

In addition to these properties, polyester is also moth resistant and light in weight. The fibers drawn from a spinneret can be made very fine and thin, thus the texture of polyester can be very fine and smooth. Polyester is also chemically more inert than the natural fibers and is insoluble in most common solvents.

Uses of polyester

- Terylene, a polyester is used extensively in textile industry to make clothes like sarees, dress materials, tapestry, etc.
- Terylene mixed with natural fibers like cotton or wool called terrycot or terrywool, is used widely for making clothes.
- Polyester material is light weight as well as strong. Hence it is used for making light weight sails. Also these sails are water resistant which is useful for sailing purposes.